## Question 1

**How to Attempt?**

**Simple Encoded Array_1:** Maya has stored few confidential numbers in an array (array of int). To ensure that others do not find the numbers easily, she has applied a simple encoding.
Encoding used: Each array element has been substituted with a value that is the sum of its original value and its succeeding element's value.
i.e. arr[i] = original value of arr[i] + original value of arr[i+1]
e.g. value in arr[0] = original value of arr[0] + original value of arr[1]
Also note that value of last element i.e. arr[last index] remains unchanged.

For example,
If the encoded array is {7,6,8,16,12,3}
The original array should have been {2,5,1,7,9,3}

Provided the encoded array, you are expected to find the –

a. First number (value in index 0) in the original array

b. Sum of all numbers in the original array

Write the logic in the function **findOriginalFirstAndSum(int[] input1, int input2);**
where,
**input1** represents the encoded array, and
**input2** represents the number of elements in the array input1

The method is expected to –

- find the value of the first number of the original array and store it in the member **output1** and
- find the sum of all numbers in the original array and store it in the member **output2**

Note that the output1 and output2 should be returned as -
- members of a Result object (if the code is being written in Java, C# or C++)
- members of a Result struct (if the code is being written in C)

**Assumption:** The array elements can be positive and/or negative numbers

## Question 2

Write a Java program to create two threads:

One for displaying all odd numbers between 1 and 100 and

second thread for displaying all even numbers between 1 and 100.